

Checklist for aquatic alien species in the Belgian part of the North Sea and adjacent estuaries

VLIZ alien species consortium

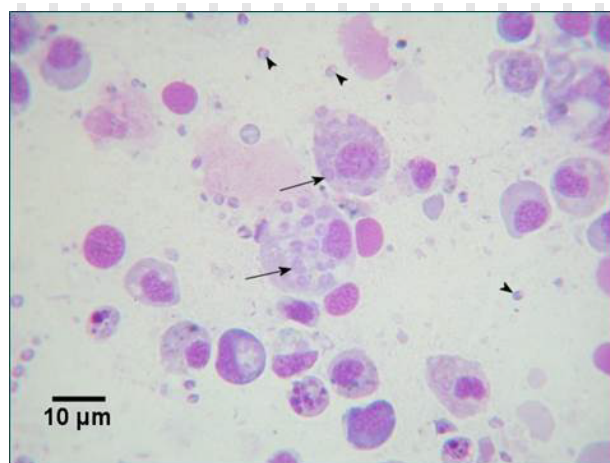
Which species are on the list

- All known non-indigenous species with established populations in marine and brackish waters
- Cryptogenic species
- Species (un)intentionally introduced by man
- Species shown to be ***invasive*** (*). Invasiveness may be defined either from ecological or socio-economic perspective

Which species are not on the list

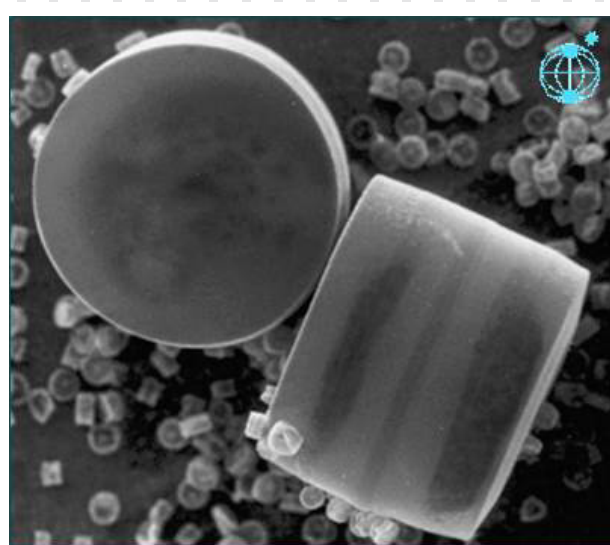
- Vagrant species
- Fresh water species
- Species arriving by natural dispersion, e.g. as a consequence of climate change

Single-cell organisms (1)



****Bonamia ostreae*** - 1979

Algae (11)



Caulacanthus ustulatus - 2011
Antithamnionella ternifolia - 1995
Codium fragile fragile - 1998
Coscinodiscus wailesii (picture) - 1977
Gracilaria vermiculophylla - 2011
Neosiphonia harveyi - 2000
Odontella sinensis - 1904
Polysiphonia senticulosa - 2001
Sargassum muticum - 1972
Thalassiosira punctigera - 1993
Undaria pinnatifida (picture) - 1999

Cnidarians (5)



****Cordylophora caspia*** - 1905
Garveia franciscana - 1962
Diadumene lineata (picture) - 1998
Mnemiopsis leidyi - 2007
Nemopsis bachei - 1996

Worms (4)



****Anguillicoloides crassus*** - 1985
Ficopomatus enigmaticus (picture) - 1952
Marenzelleria neglecta - 1996
Tubificoides heterochaetus - 1953

Information brochure by species



Arthropods (28)



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****Acartia (Acanthacartia) tonsa*** - 1967
Amphibalanus amphitrite (picture) - 1995
Amphibalanus improvisus - 1895
****Austrominius modestus*** - 1950
Callinectes sapidus (picture) - 1981
Caprella mutica - 1998
Chelicorophium curvispinum - 1981
Cryptorchestia cavimana - 1900
****Dikerogammarus villosus*** - 2005
****Eriocheir sinensis*** (picture) - 1933
Gammarus tigrinus - 1995
****Hemigrapsus takanoi*** - 2003
****Hemigrapsus sanguineus*** - 2006
Hemimysis anomala - 1999
Incisocalloipe aestuarius - 1991
Megabalanus coccopoma - 1997
Megabalanus tintinnabulum - 1998
Melita nitida - 2003
Monocorophium sextonae - 2000
Mytilicola intestinalis - 1952
Palaemon macrodactylus (picture) - 2004
Proasellus coxalis - 1998
Prokelisia marginata - 2011
Pseudodiaptomus marinus - 2010
Sinelobus stanfordi - 2007
Synidotea laticauda - 2005
Rhithropanopeus harrisii - 1985
Telmatogeton japonicus - 2005

Vascular plants (2)



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****Spartina townsendii var. anglica*** - 1920/30
Baccharis halimifolia - 1924

Rotifers (1)

Keratella tropica - 2002

Sponges (1)

Haliclona (Soestella) xena - 2009

Molluscs (10)



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****Crassostrea gigas*** - 1981
Crepidula fornicata (picture) - 1911
Ensis directus - 1987
Mya arenaria - before 1600
****Mytilopsis leucophaea*** - 1835
Petricolaria pholadiformis - 1899
Potamopyrgus antipodarum - 1927
****Psalitredo megotara*** - cryptogenic
Rangia cuneata - 2005
****Teredo navalis*** - cryptogenic

Bryozoans (3)



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Bugula simplex - 2000
Bugula stolonifera (picture) - 1997
Tricellaria inopinata - 2000

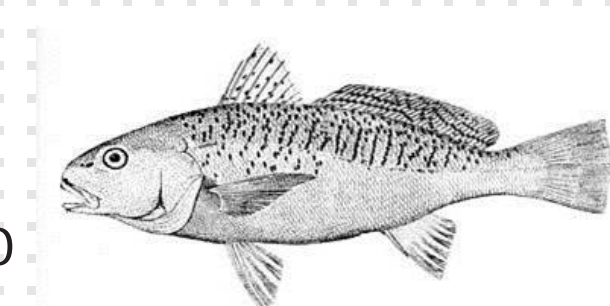
Sea squirts (5)



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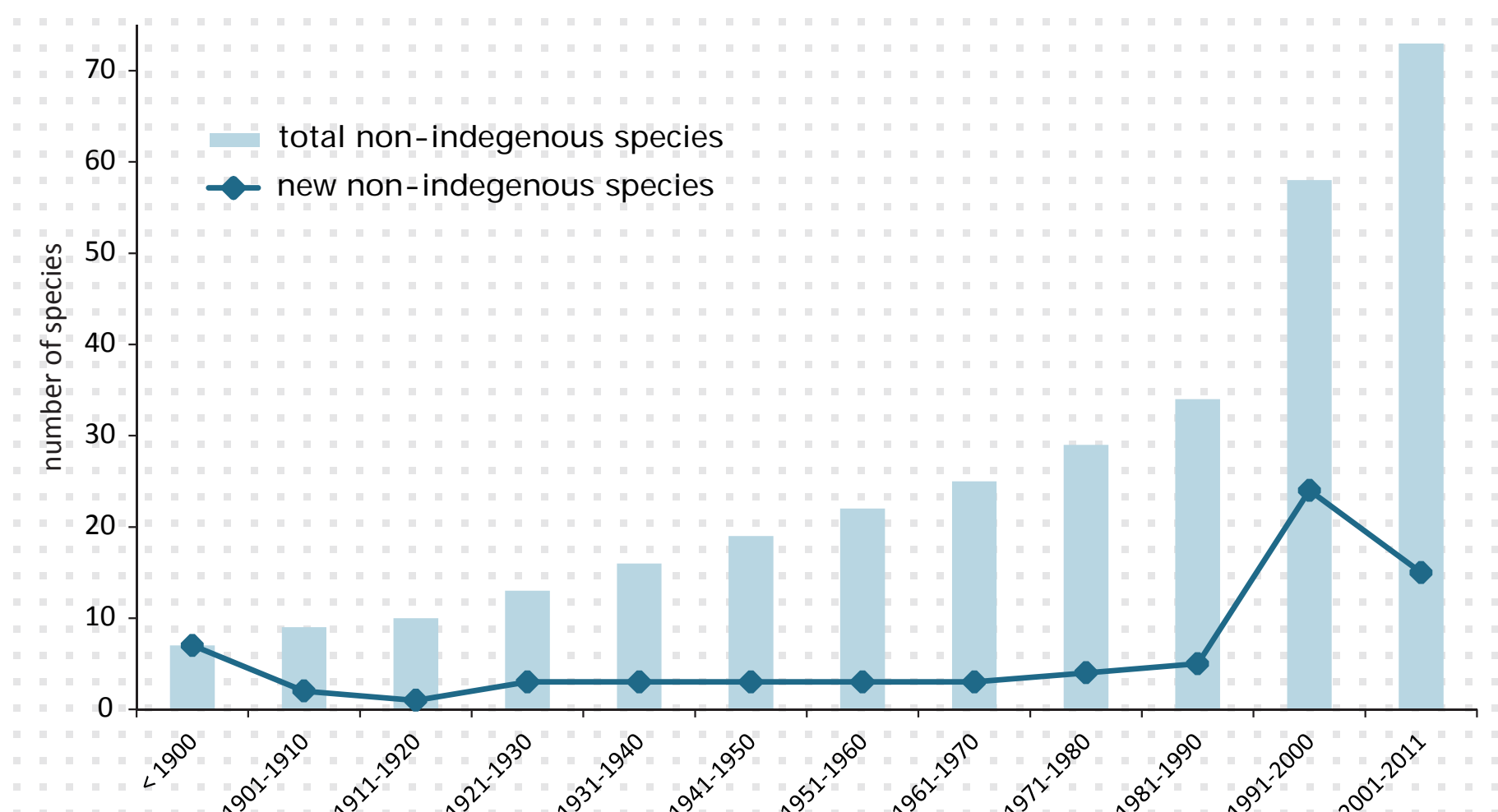
Aplidium glabrum - ?
Botrylloides violaceus - 2004
Diplosoma listerianum - 2005
Molgula manhattensis - 1976
Styela clava (picture) - 1986

Fish (2)



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Micropogonias undulatus - 1998
Neogobius melanostomus - ?



Increase in first observations of alien species, from 1970's

Number alien species increased from 32 to 73 (1990-2013)

Literature screening and reported evidence suggest 14 species are 'invasive' in the BNS or in the adjacent waters. Of these, 6 are arthropods



Vlaams Instituut voor de Zee vzw
Flanders Marine Institute

VLIZ alien species consortium:

VLIZ: Flanders Marine Institute
UGent: Marine Biology, Phycology research group, Laboratory of Protistology and Aquatic Ecology, Laboratory of Environmental Toxicology and Aquatic Ecology
SWG: Strandwerkgroep België
ILVO: Institute for Agricultural and Fisheries Research
BELSPO-BBPF: Belgian Science Policy - Belgian Biodiversity Platform
NCB Naturalis: Netherlands Centre for Biodiversity Naturalis
eCOAST Research Centre Ostend

KBIN: Royal Belgian Institute for Natural Sciences
KU Leuven: Laboratory of Biodiversity and Evolutionary Genomics
INBO: Research Institute for Nature and Forest
LEF: Université Paul Sabatier, Laboratoire d'Ecologie Fonctionnelle
UVA-ZMA: University of Amsterdam, Zoological Museum Amsterdam
University of Oxford: Museum of Natural History
Ecosub
NEV: Netherlands Entomological Society